

CLAIMS

Having thus described our invention what we claim as new, and desire to secure by Letters Patent is:

1. A method of permitting a scene description based player to play a set of elementary streams having no scene description, said method comprising:

detecting if there is a scene description stream in a set of elementary streams, said scene description stream providing information on the position and interrelationship of audio visual objects in a scene; and

if no scene description stream is detected, then generating a scene description stream for displaying said set of elementary streams, wherein said scene description stream is used to permit said player to play said set of elementary streams.

2. A method as recited in claim 1, wherein, if said set of multimedia streams having only a single audio stream and/or a single visual stream, said scene description stream is generated by constructing an MPEG-4 scene replacement command with an MPEG-4 scene graph with nodes for rendering said audio and/or visual streams, generating an object descriptor stream by constructing MPEG-4 object descriptor update commands, and constructing an MPEG-4 initial object descriptor for describing said object descriptor stream and a scene description stream.
3. A method as recited in claim 1, wherein said scene description stream is generated by an MPEG-4 scene description generator.
4. A method as recited in claim 1, wherein said scene description stream comprises a plurality of MPEG-4 scene description stream commands.
5. A method as recited in claim 2, wherein said plurality of commands comprises at least one of the following

commands: a scene replacement command, a node insertion command, and a node deletion command.

6. An apparatus for permitting a scene description based player to play a set of elementary streams having no scene description stream, said apparatus comprising:

a scene description detector for detecting if there is a scene description stream in a set of elementary streams, said scene description stream providing information on the position and interrelationship of audio visual objects in a scene; and

a scene description stream generator for generating a scene description stream for displaying said set of elementary streams when no scene description stream is detected, wherein said scene description stream is used to permit said player to play said set of elementary streams.

7. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for permitting a scene description based player to play a set of elementary streams having no scene description stream, said method comprising:

detecting if there is an scene description stream in a set of elementary streams, said scene description stream providing information on the position and interrelationship of audio visual objects in a scene; and

if no scene description stream is detected, then generating a scene description stream for displaying said set of elementary streams, wherein said scene description stream is used to permit said player to play said set of elementary streams.

8. A method of using an MPEG-4 player to playback a presentation that contains only audio visual streams, said method comprising:

constructing a scene graph with nodes for rendering visual and audio for a presentation with just visual and audio;

encoding said scene graph in a scene replacement command;

constructing object descriptor update messages for said visual and audio;

encoding said object descriptor update messages to generate an object descriptor stream;

constructing an initial object descriptor which describes said object descriptor and scene description streams; and

supplying said initial object descriptor, said object descriptor stream and said scene description stream to said MPEG-4 player to playback said presentation.

9. A method of permitting a MPEG-4 systems based player to play a set of elementary streams having no MPEG-4 systems streams, said method comprising:

detecting if there is an MPEG-4 system stream, said MPEG-4 system stream providing information on the position and interrelationship of audio visual objects in a scene; and

if no MPEG-4 system stream is detected, then generating an initial object descriptor, a scene description stream, and a object descriptor stream for displaying said set of elementary streams, wherein said initial object descriptor, said scene description stream, and said object descriptor stream are used to permit said player to play said set of elementary streams.

10. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of an initial object descriptor stream.

11. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of a scene description scene stream.

12. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of an object descriptor stream.

13. A method of permitting a *Synchronized Multimedia Integration Language (SMIL)* based player to play a set of elementary streams having no SMIL document, said method comprising:

detecting if there is a SMIL document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and

if no SMIL document is detected, then generating such a SMIL document, where said SMIL document is used to permit said player to play said set of elementary streams.

14. An apparatus for permitting a SMIL based player to play a set of elementary streams having no SMIL document, said apparatus comprising:

an SMIL document detector for detecting if there is an SMIL document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and a SMIL document generator for generating an SMIL document if no SMIL document is detected, where said SMIL document is used to permit said player to play said set of elementary streams.

15. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for permitting a scene description based player to play a set of elementary streams having no scene description stream, said method comprising:

detecting if there is a Synchronized Multimedia Integration Language (SMIL) document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and

if no SMIL document is detected, then generating such a SMIL document, where said SMIL document is used to permit said player to play said set of elementary streams.